

REMARKS/ARGUMENTS

Claims 1-15 are active in the case. Reconsideration is respectfully requested.

The present invention relates to a very hard coated film that has a low refractive index.

Specification Amendment

The specification has been amended on page 15 in order to correct a minor spelling error in one of the silane compounds. Further, a very minor error has been corrected on page 29 of the text in the change of "minute" to --seconds-- at lines 11-13. The error occurred at the time of the translation of the PCT application into English. None of the amendments are believed to have introduced new matter into the case. Entry of the amendments into the record is respectfully requested.

Claim Amendments

Claims 1, 4, 7, 10 and 13 have been amended in particular to improve upon the presentation of the claims and the grammar of the claims. Minor amendments have been made to several other claims. None of the amendments change the scope of the claims or introduce new matter therein. Entry of the amendments into the record is respectfully requested.

Invention

The present invention is directed to a process for preparing a coating fluid containing a polysiloxane by forming a reaction mixture comprising (a) a silicon compound (A) of formula (1) $\text{Si}(\text{OR})_4$, wherein R is a C_{1-5} alkyl group, (b) a silicon compound (B) of formula

(2) $\text{CF}_3(\text{CF}_2)_n\text{CH}_2\text{CH}_2\text{Si}(\text{OR}^1)_3$, wherein R^1 is a C_{1-5} alkyl group, and n is an integer ranging from 0 to 12, (c) a silicon compound (C) of formula (3) $\text{H}_2\text{NCONH}(\text{CH}_2)_m\text{Si}(\text{OR}^2)_3$ wherein R^2 is a C_{1-5} alkyl group, and m is an integer of from 1 to 5, and an alcohol (4) $\text{R}^3\text{CH}_2\text{OH}$, wherein R^3 is a hydrogen atom or a C_{1-12} alkyl group. The components of the composition are combined in the relative amounts which are stated in the claims. An important aspect of the claims is the ureido compound that contains a trialkoxysilyl group. As stated at page 13, lines 19 *et seq* of the specification, the presence of the ureido compound as a component of the reaction mixture from which the product polysiloxane material is formed in an amount of more than 0.20 mol per mol of silane compound (A) makes it very difficult to obtain a film that has a refractive index of 1.41 or less. If the amount of the ureido compound in the reaction mixture is less than 0.01 mol per mol of silane compound (A), a film having adequate hardness will be difficult to obtain. Accordingly, the ureido component of the present reaction mixture is an essential ingredient in the amounts stated in the claims.

Claim Rejection, 35 USC 102 & 35 USC 103

Claims 1-3 stand rejected based on 35 USC 103(a) as obvious over Nogami et al, U. S. Patent 5,800,926 in view of Crompton OSi. This ground of rejection is respectfully traversed.

It is clear that in the combination of reactants (A), (B), (C) and (D) of the polysiloxane product that is prepared, the patent is relevant to the reactive components of the present process. However, the patent does not disclose the presence of the ureidosilyl group containing compound of the present invention. In view of the discussion above concerning the importance that the ureidosilyl group containing compound has on the characteristics of coated films prepared from the polysiloxane produced by the claimed process, the failure to disclose or suggest the presence of the ureidosilyl group containing compound is a significant

omission. (It is noted that the experimental data in the examples of the specification provide basis for applicants statements concerning the properties of the polysiloxane produced by the present process. Coating solutions L₁-L₆ are within the scope of the invention while coating solutions L₇ and L₈ are comparative examples that are outside the scope of the present claims.) Accordingly, the patent does not suggest the present process embodiments as claimed.

The Examiner cites the Crompton OSi reference for its disclosure of an example of a ureidosilyl group containing compound (A-1524) that is within the scope of the ureido compound of the present claims, which is true. However, while the compound of the reference demonstrates a variety of different effects in compositions such as adhesion promotion, coupling agents and crosslinking, there is nothing in the way of disclosed characteristics that would lead one of skill in the art to add the ureido compound to the combined reactants of Nogami et al in order to achieve the advantages of a coated film having a low refractive index and having a satisfactory hardness. Accordingly, the combined references do not suggest the present invention and withdrawal of the rejection is respectfully requested.

Claims 4-6 stand rejected based on 35 USC 103(a) as obvious over Nogami et al, U. S. Patent 5,800,926 in view of Crompton OSi. This ground of rejection is respectfully traversed.

Applicants traverse the rejection of the indicated claims for the same reasons discussed above with respect to Claims 1-3. Withdrawal of the rejection is respectfully requested.

Claims 7-9 stand rejected based on 35 USC 103(a) as obvious over Nogami et al, U. S. Patent 5,800,926 in view of Crompton OSi. This ground of rejection is respectfully traversed.

Applicants traverse the rejection of the indicated claims for the same reasons discussed above with respect to Claims 1-3. Withdrawal of the rejection is respectfully requested.

Claims 10-12 stand rejected based on 35 USC 103(a) as obvious over Nogami et al, U. S. Patent 5,800,926 in view of Crompton OSi. This ground of rejection is respectfully traversed.

Applicants traverse the rejection of the indicated claims for the same reasons discussed above with respect to Claims 1-3. Withdrawal of the rejection is respectfully requested.

Claims 13-15 stand rejected based on 35 USC 103(a) as obvious over Nogami et al, U. S. Patent 5,800,926 in view of Crompton OSi. This ground of rejection is respectfully traversed.

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Claims 1-3 stand rejected based on 35 USC 103(a) as obvious over Nogami et al, U. S. Patent 5,800,926 in view of Hayashi et al, U. S. Patent 6,800,330. This ground of rejection is respectfully traversed.

Applicants comments as set forth above with respect to Nogami et al apply equally as well to in the present ground of rejection. There is, in fact, no mention of a ureidosilyl group containing compound in the reactive ingredients of the patent. Hayashi et al has been cited to make-up for this deficiency, because of its disclosure of two ureido compounds among a large list of compounds that are described in columns 14 and 15 of the patent. However, it is imperative to consider that all of the wide variety of compounds disclosed in these two columns are used as coupling agents to link or couple silane molecules in the reactive

mixture. In other words, a number of different types of active group containing trialkoxysilanes achieve the same desired objective as a coupling agent. On the other hand, as noted in applicants' comments above, the function of the ureidosilyl group containing compound in the present composition has to do with the two characteristics of providing a coated film of satisfactory hardness, while at the same time providing a transparent coating of low refractive index. These objectives are not disclosed or suggested in either patent. Accordingly, one of skill in the art would in no way be led to select only one of the two ureido compounds set forth at column 15, lines 11 and 12 from amongst the many other silane compounds taught as equivalents to the ureido compounds and add the compound to the composition described by Nogami et al and arrive at the present invention. Accordingly, the rejection is believed to fail and withdrawal of the same is respectfully requested.

Claims 4-6 stand rejected based on 35 USC 103(a) as obvious over Nogami et al, U. S. Patent 5,800,926 in view of Hayashi et al, U. S. Patent 6,800,330. This ground of rejection is respectfully traversed.

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Applicants traverse the rejection of the indicated claims for the same reasons discussed above with respect to Claims 1-3. Withdrawal of the rejection is respectfully requested.

It is now believed that the application is in proper condition for allowance. Early notice to this effect is earnestly solicited.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.
Norman F. Oblon

Customer Number
22850

Tel: (703) 413-3000
Fax: (703) 413 -2220
(OSMMN 06/04)



Frederick D. Vastine, Ph.D.
Registration No. 27,013

NFO:FDV